

Assessing the Effects of School Support Facilities on Academic Achievement at Punjab Education Foundation Partner Schools

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Abstract

School supporting facilities provides a base for quality teaching and learning. The objective of this article was to assess the effect of school support facilities at Punjab Education Foundation partner schools on academic achievement. The present study was descriptive in nature; survey approach was used for data collection. Study was delimited to Punjab province. The sample of the study was comprised of 146 Principals from Sahiwal division of Punjab chosen through multi-stage random sampling technique. A Check List for School Support Facilities (CLSSF) consisted of 28 items was self developed, validated before actual survey. The survey data was analyzed by running multiple regression statistics. The dependent variable academic achievement assessed from the academic marks of students obtained in 2017 Punjab Examination Commission of Punjab. The findings of the study showed that school support facilities like tablet, I.T Lab, ventilation, first aid medical box, gas, store room, ECE/kids room, staff room and library contributed about 15.8% towards academic achievement at Punjab Education Foundation partner schools significantly. The Punjab Education Foundation may provide support facilities to their partner schools for the academic promotion.

Keywords: Support facilities, Punjab Education Foundation, Survey, Multiple regression statistics, Academic achievement.

Introduction

The schooling process which assists students promotes in positive way with their emotions and values is commonly known as affective to distinguish it from cognitive learning that is concerned with facts and ideas. The different programs designed to help students handle their emotions, which might at one time have been termed affective education. It is the duty of state to “provision of equal access to courses, facilities and programs without caring of national origin, race, gender, sexual orientation, disabilities and language” Meeting the diverse educational needs of students, some of them will require specific physical environment and to be able to achieve the required objectives (Shukla, 2014). The school support facilities have measurable effects on the academic achievement of learners. From kindergarten through high school, the environment in which our students learn affects their performance and ultimately their future.

Punjab Education Foundation (PEF) set up under Punjab Education Foundation Act of 1991 as an autonomous organization to promote and improve education in the private sector and restructured amended under the “Punjab Education Foundation Act-XII of 2004” to support the poor community with the help of private sector for providing quality education working through public private partnership paradigms (The Punjab Education Foundation Act of 2004). The vision of PEF is to “promote an educated society in partnership with the private sector to get access to the basic right of education in Punjab” The provision of financial support for the establishment, improvement, and management of private educational institutions, incentives for educators and capacity building in-

cluding training of teachers, donations and grants, and contributions is the main function of Punjab Education Foundation. The foundation provides incentives to students, teachers and the educational institutions. Punjab Education Foundation assisted more than 2.5 million poor students (The Punjab Education Foundation (Conduct of Business) Rules, 2005). The foundation is governed through Board of Directors (BOD). The Board of Directors of Punjab Education Foundation comprised of 15 directors headed by the chairman which determine the effectiveness of the organization and accomplish predetermined goals and objectives. There are four major initiatives of Punjab Education Foundation i.e. firstly Foundation Assisted School (FAS), secondly New School program (NSP), thirdly Education Voucher Scheme (EVS) and fourthly Public School Support Program (PSSP) outreach in the whole Punjab province. The schools working under the umbrella of Punjab Education foundation have a better organizational structure (Arshad & Qamar, 2018).

In past years, the school physical environment presented a contributing independent factor in an educational, cognitive and affective development of students. Kaushal (2016) classified school environment into two basic categories i.e. social and physical environment. The school and family relationships is the primary social unit of students play a vital role in life pattern from early ages to adulthood. The students' personality development flourished at school. The students' achievement pays paramount significance in the education system; actually it determines the overall performance of schools. The qualifications and experience of teachers had not any significant affect on student achievement while the instructional materials and school support facilities had significant influence in determining student achievement in Hargeisa city public secondary schools. The institutional factors like lack or insufficient instructional materials and academic support facilities influence student performance (Abdi, 2017).

The school learning infrastructure provides a base for effective teaching and learning in schools and ensuring successful education. The school facilities like library, administration offices and water, administration offices and classroom, laboratory and classroom had the highest Product-Moment Correlation Coefficient (PMCC) and showed positive association (Omae et al, 2017). Awan (2018) attributed that school facilities like school buildings, natural lighting and ventilation were better in public schools while school facilities like electricity, artificial lighting in classrooms, drinking water and wash rooms facilities were better in private sector schools.

The school support facilities effect the teaching and learning process considered primary by educational policymakers. The school support facilities portray innovative trends in school activities and processes which in turn influences teacher performance and academic achievement. The school physical environment plays an important contribution in influencing teachers' level of performance or productivity. The school teachers were experiencing problems with the physical academic support facilities in which they work, accommodated in as shown by their performance. Various characteristics of the school physical environments greatly influence attitudes, behaviors and academic achievements of teachers and students (Isaiah, 2013).

Naz, Khan and Khan (2012) described the positive effects of physical and infrastructural facilities on students' performance at various levels. The availability of physical and infrastructural facilities in educational institutions had positive effect on students overall achievement. Ekundayo and Timilehin (2012) indicated that the students achieved well in the affective and psychomotor domains of learning and a significant relationship between school facilities and students achievement. Olufemii and Olayinka (2017) pointed out that class size is an important factor in determining the quality of output. The students learning in schools having small class sizes had better quality of output than students in schools having large class sizes. A significant difference was found between

classroom physical environment and academic achievement. The students learn in well-furnished classroom with better facilities leads to excellent academics (Kekare, 2015).

Nepal and Maharjan (2015) showed that the community schools of central Nepal had poor school physical facilities and student's achievement. Majority of schools face problems in terms of lack of availability and utilization of physical facilities, even the basic requirements such as educational material, sport material and play ground, IT lab, library, drinking water, toilets and multimedia. The school physical environment influence students' learning environment through student achievement and outcome across different level of students. Suleman and Hussain (2014) revealed that a significant effect of classroom physical environment on the academic achievement scores of secondary school students. Well equipped classroom with better physical facilities has a significant positive effect on the academic achievement scores of secondary school students. However, the students feel comfortable within classroom have much concentration on the lesson learning and obtained high scores.

Akomolafe and Adesua (2016) described that a significant positive relationship was found between school physical facilities and students' level of motivation and academic performance. Tanzani (2017) concluded that there is inadequate number of textbooks, reference books, maps and globes in schools under investigation due to enhanced enrollment of students in community schools. The schools have inadequate physical facilities such as classrooms, desks, chairs and the available classrooms are poorly constructed with inadequate spacing. The physical facilities were available and utilized encouraged students to perform well in final exams and this influenced academic performance (Bakari, Likoko & Ndinyo, 2014).

The availability of physical facilities improve students' personality; besides more physical facilities improve students' potentials, increases students' capacities, create a sense of love and affection and reduces rigidity which positively influences students' personality (Naz et al, 2013). Quality teaching and learning are the basic requirements of the 21st century. For this objective to be attained, the procurement of school facilities need to be guided by the principle of quality that fit within the precincts of stated objectives of the educational system. When school facilities are in good state, the teachers and learners will be motivated and committed to carry out their respective responsibilities. This will go a long way to optimize educational internal efficiency. However, school internal efficiency cannot be determined by adequate facilities alone. Teacher quality, learner quality and a host of other factors are also important (Souck & NJI, 2017).

The parents demonstrated a preference for a school that offered specialist classes with better facilities like theatre, internet Wi-fi, computer labs, science labs, smart boards, medical care and meeting rooms (Alsuiadi, 2015). Insufficient school facilities were negatively impacting student performance and achievement, and the administrators concerned take no significant action in addressing this educational issue (Limon, 2016).

Objective of the Study

The objective of the study was to assess the effect of school support facilities on academic achievement at Punjab Education Foundation partner schools.

Research Question of the Study

What is the effect of school support facilities on academic achievement at Punjab Education Foundation partner schools?

Methodology

Population of the Study

This study was delimited to Foundation Assisted Schools (FAS) and Education Voucher Scheme (EVS) schools working under the recognition of Punjab Education Foundation. Therefore

all Principals of Punjab Education Foundation partner schools of the Punjab were the target population of the study. There are 4996 PEF partner schools in Punjab. The total 4996 Principals are working in Punjab Education Foundation partner schools.

Sample of the Study

The sample in a study is the group of participants or subjects from which information is obtained. Multi-stage random sampling technique was employed for the selection of sample. According to geographical division, Punjab province is divided into three zones i.e. North Zone, Central Zone and South Zone. There are total 36 districts in Punjab. Province Punjab consists of 9 divisions. The researcher selected division of Sahiwal for the study which falls in central Punjab, due to easy approach for the researcher. The division of Sahiwal consists of three districts: Pakpattan, Okara and Sahiwal. The total 209 Punjab Education Foundation FAS and EVS schools are operational in the division Sahiwal. So, the total Principals are 209 who are working in the Punjab Education Foundation partner schools. Therefore, the accessible population of the study was 209 Principals of the Punjab Education Foundation partner schools.

Table 1 Overall Distributive Breakup of Accessible Population and Sampled Population of Punjab Education Foundation Partner Schools

Sr. No.	Districts	Accessible Population	Sampled Population
		Principals	Principals
1	Okara	115	77
2	Pakpattan	67	51
3	Sahiwal	27	18
4	Total	209	146

From the accessible population of PEF partner schools, a sample of 70% was drawn for the selection of Principals. So, 146 Principals were selected through random sampling technique. The rural and urban schools were given equal consideration. However, the same 146 Punjab Education Foundation partner schools were also taken as sample for students' academic achievement (Gay, Mills, & Airasian, 2009).

Instruments of the Study

The tools (questionnaire, interview, observation, anecdotal record, checklist, rating scale & etc.) used by the researcher to obtain data from the research subjects of the study are called research instruments and the complete process of obtaining data is called instrumentation. Instrumentation involves the selection or design of the instruments/tools and also deals with the procedures and the conditions under which these instruments were administered. To collect the required information, A self developed Check List for School Support Facilities (CLSSF) was used to check the support facilities of Punjab Education Foundation partner schools. The Check List for School Support Facilities (CLSSF) was a relevant and appropriate tool for data collection. The Check List for School Support Facilities (CLSSF) was comprised of 28 items. The instrument comprised of two main options: i.e. available and not available. Principals were the most suitable individuals to respond about the status of academic support facilities of his institution. Therefore, the data about school academic support facilities was collected from Principals.

The government of Punjab gives authority to Punjab Examination Commission (PEC) to conduct annual exams of 5th and 8th grade of all public schools of the Punjab province. The Punjab Examination Commission also conducted exams of all Punjab Education Foundation partner schools of the Punjab. The Punjab Examination Commission result gazette of 8th grade for the year 2017

was obtained from registrar examination branch of Chief Executive Office of the District Education Authorities of all selected districts. The researcher sorted out the result of all selected schools from the gazette of the selected districts. The researcher calculated the percentages of results of the selected schools. For the realization of results, the researcher established a criterion of his own to dig out the practical and operational physibility in view of the improvement of current scenario. Punjab Examination Commission gazette 2017 document of grade VIII was taken for measuring the scores presenting in average mode determining the academic achievement of students.

Administration of the Research Instrument

After the final preparation of research instrument, the researcher personally visit the schools and delivered the Check List for School Support Facilities (CLSSF) to the research subjects with the request to fill it carefully because Principals are very busy persons in performing different activities in the institution. And wherever possible, the research instrument delivered through friends and colleagues. The e-mail and telephone were also used for data collection purpose. Researcher faced multiple problems in data collection. Especially, travelling to sample selected schools was very tough and laborious. The Principals show reluctance to give any information and they were assured that this data will be used only for research purposes. The process of data collection continued for three months. The response rate of returning instruments was 100%.

Results

Multiple Regression Analysis and Interpretation of Data

Multiple regression statistics was run to assess the effect of school support facilities on academic achievement. The multiple regression model with dependent variable academic achievement, the following variables are constants or have missing correlations such as office, class rooms, canteen, transport, laboratory, wash rooms, lifts, air conditioning, plants, sports items, mosque, play grounds, electricity, water, furniture, boundary wall, telephone/mobile and white board. They will be deleted from the analysis.

Table 2 Multiple Regression Results for Punjab Education Foundation Partner Schools to Examine the Effect of School Support Facilities on Academic Achievement

<i>Variables</i>	<i>B</i>	<i>SE B</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
(Constant)	45.767	6.720		6.810	.000
Library	2.176	3.070	.079	.709	.480
Ventilation	1.693	1.987	.084	.852	.396
Staff Room	-.679	1.027	-.056	-.661	.510
Gas	-1.919	2.438	-.082	-.787	.433
I.T Lab	2.096	1.241	.163	1.690	.093
First Aid Medical Box	-2.101	3.105	-.108	-.677	.500
ECE/Kids Room	3.262	1.090	.268	2.993	.003
Store Room	3.026	3.125	.129	.968	.335
Tablet	.691	1.911	.045	.362	.718
Multiple R	0.398	R Square		0.158	
Durbin Watson	2.080	F-statistic		2.845	
Observations	146	F-significance		.004	

Dependent Variable: Academic Achievement. Independent Variables: (Constants), tablet, I.T lab, ventilation, first aid medical box, gas, store room, ECE/kids room, staff room, library.

The table 2 indicated that value of R (0.398) shows the correlation between academic achievement and diversity of independent variable. The value of coefficient of determination R square (0.158) provides an estimate of the strength of the relationship between academic achievement and supporting facilities variables. The low value of R square did not provide a formal hypothesis testing. Therefore, F- statistics was reported, which is 2.845 and the value of significance is 0.004 which shows the group of explanatory variables has statistically significant relationship with academic achievement factor. The value of Durbin Watson (2.080) indicates that data is not auto-correlated. Linear regression analysis of variance ANOVAs significance and the value of R-square describe the overall fitness of the model and significance value must be less than 0.05 on 95% of confidence interval. The value of significance showed that the model is significant and fit as per results. It was concluded that the multiple regression model shows 15.8% significance of the set of independent variables, the remaining explanation of 84.2% is from other external factors which are not included in the present study. The multiple regression statistics shows 15.8% variance in overall academic achievement. The values in the parameters are standard errors of the estimators of parameters. Actually, the coefficient shows the relationship of individual independent variable with the academic achievement. The mean effect of included variables is reflected by intercept of the model which takes the value 320.231 significantly. The school academic support facilities (independent variables) i.e. staff room; gas and first aid medical box have negative effect on academic achievement. It means that a unit increase in these variables reduced the academic achievement while the t-statistics and 'p' values indicate that this association is statistically insignificant. The school academic support facilities like I.T Lab and ECE/Kids room have positive effect on academic achievement. Beta of I.T Lab (.163) means that one unit increase in this variable enhances 16.3% in the academic achievement at 1 percent level of significance. Beta of ECE/Kids room (.268) means that one unit increase in this variable increases 26.8% in the academic achievement at 1 percent level of significance. The t-statistics and 'p' values indicate that this association is statistically significant. The school academic support facilities i.e. library, ventilation, store room and tablet have positive effect on academic achievement. It means that one unit increase in this variable increase the academic achievement while the t-statistics and 'p' values indicate that this association is statistically insignificant.

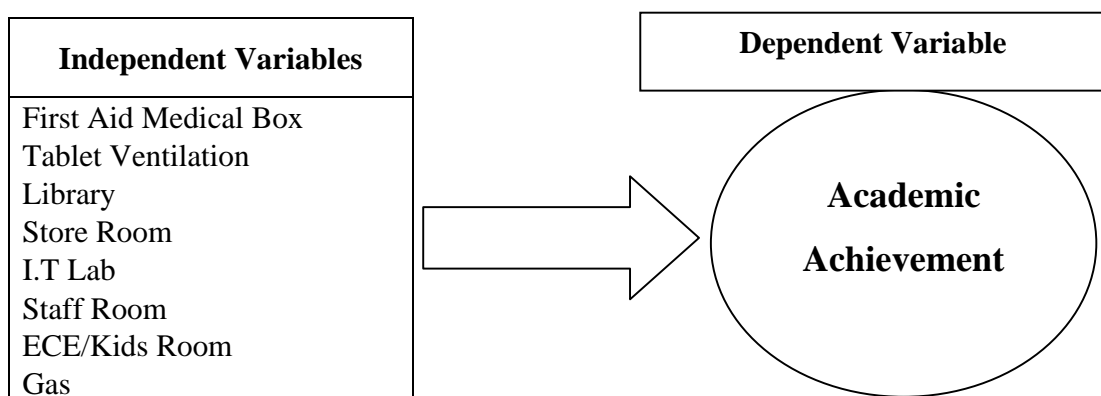


Figure 1: Effect of School Support Facilities on Academic Achievement

Discussion and Conclusions

Odigwe and Eluwa (2013) found that 87.10% of the research subjects agreed that there exist a correlation between provision, maintenance and management of school facilities and students'

academic achievement. The study strongly supports the necessity of having all the prescribed physical infrastructural facilities and the teaching learning resources on the schools for more effective and efficient delivery of knowledge, which is essential requirement in any knowledge based economy (Vaishali & Ravindra, 2017). The school is not just an intellectual space, but also provides social, emotional and physical environment (Uma, 2017). Schools educational physical facilities give new meaning to the teaching and learning process. Schools management of educational facilities is an integral part of the overall management of the school. The actualization of the goals and objectives of education require the available, most utilization and proper management of the physical facilities. Facilities provision and management will improve the quality of teaching and learning (Nepal & Maharjan, 2015). The physical facilities of any educational institution play a key role for making the physical environment attractive for the students and society. The school physical facilities have 15.4% contributive effects on the students' academic achievement (Arshad, Qamar & Gulzar).

There is a dire need for school improvement in terms of missing physical facilities to meet the needs. The majority of the schools had problems such as shortage of furniture, lack of science, math, computer and English teachers, inadequate IT facilities, inadequate building, shortage of classrooms, inadequate light, drinking water and toilet facilities (Saeed & Wain, 2011). The teachers of private sector favorably perceived their school in relation to the physical facilities and these schools are providing to maintain effective teaching learning environment (Khurshid & Khan, 2012). For many years researchers have claimed that relationship exists between building condition and student performance (Gunter & Shao, 2016).

The school from adequate physical facilities in good condition may influence students to perform well in learning process and examination. Zainuddin & Subri (2017) concludes that school facilities may improve students' academic achievement. The e-learning of system management, teaching aids and library of learning environment, hostels, sports facilities, parking and transportation of infrastructure were all significant to impact students academic achievement. The independent factors contributed about 51.5% towards the students' achievement (Ramli & Zain, 2018). Koroye (2016) portrayed that the aesthetic beauty of the school and infrastructural facilities significantly influence students academic performance. Also, there is a significant influence of school equipment and instructional materials and school location on students' academic performance. The present study showed that school support facilities like tablet, I.T Lab, ventilation, first aid medical box, gas, store room, ECE/kids room, staff room and library contributed about 15.8% towards academic achievement at Punjab Education Foundation partner schools significantly. Therefore, the Punjab Education Foundation may provide support facilities to their partner schools for the enhancement of academic achievement.

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